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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,625	01/22/2004	Meng-An Pan	58268.00350	3541

32294 7590 09/30/2008

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EXAMINER	
NGUYEN, TUAN HOANG	
ART UNIT	**PAPER NUMBER**
2618	

MAIL DATE	DELIVERY MODE
09/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,625	PAN ET AL.	
	Examiner	Art Unit	
	TUAN H. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-9 and 12-17* is/are pending in the application.

4a) Of the above claim(s) *3,4,10, and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-9 and 12-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 06/06/2008 have been fully considered but they are not persuasive.

In response to Applicant's remark on page 7, Applicant argues that Gandhi et al. (US PAT. 6,968,201 hereinafter, "Gandhi") reference cited by the Examiner does not disclose or suggest that the instruction to adjust the output power of the power amplifier (the limitation has been under line is not claim in claims 1, 8, and 9) specifies at least one of a percentage change in power and a dB change in power. Examiner respectfully disagrees with the Applicant argument. Consider claims 1, 8, and 9. The Applicant only claim "the instruction specifies at least one of a percentage change in power and a dB change in power". Applicant should refer to Gandhi reference col. 2 lines 26-49 whereas the Examiner interpreted "the instruction specifies at least one of a percentage change in power and a dB change in power" i.e., to prevent an abrupt increase in the number of power up-adjust commands when Eb /No measurements do not meet target levels, a percentage of the power up-adjust commands which would normally be issued by the base station are converted to power down-adjust commands, thereby forcing some mobiles to reduce transmit power, at least temporarily, to constrain interference. If the increased interference condition persists, the percentage of power up-adjust commands which are converted to power down-adjust commands **may be changed incrementally**. In response to Applicant's remark on page 9, Applicant argues that

Hareyama (U.S PAT. 6,700,440) reference cited by the Examiner does not disclose or suggest that wherein the transistors are arranged in a logarithmic scale, thereby enabling a logarithmic change in output power with the powering on or off of a transistor. Examiner respectfully disagrees with the Applicant argument. Applicant should refer to Hareyama reference col. 4 lines 7-18 whereas the Examiner interpreted "wherein the transistors are arranged in a logarithmic scale, thereby enabling a logarithmic change in output power with the powering on or off of a transistor" i.e., a plurality of switching-driven transistors are used in a configuration such that the transistors are connected in parallel for the improvement of efficiency of the high frequency power amplifier, **the output power of which can continuously be controlled** as shown in fig. 1. **A fixed drain voltage is applied to portion of the plurality of transistors** connected in parallel, and a variable drain voltage is applied to the other portion of the transistors according to a control value. Moreover, **the turning on and off of the transistors having fixed drain voltages are made controllable**. Therefore, the teaching of the prior art references still read on.

Base on the above rational, it is believed that the claimed limitations are met by the references submitted and therefore, the rejection maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 5, 8-9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pehlke et al. (US PUB. 2002/0136325 hereinafter, "Pehlke") in view of Hareyama (U.S PAT. 6,700,440) and further in view of Gandhi et al. (US PAT. 6,968,201 hereinafter, "Gandhi").

Consider claims 1 and 8, Pehlke teaches receiving an instruction to adjust the output power of power amplifier (fig. 4 page 5 [0051]); and amplifying a signal according to the adjusted output power (fig. 4 page 5 [0051]).

Pehlke does not explicitly show that powering on or off at least one branch of the power amplifier according to the received instruction to enable a logarithmic change in output power of the amplifier.

In the same field of endeavor, Hareyama teaches powering on or off at least one branch of the power amplifier according to the received instruction to enable a logarithmic change in output power of the amplifier (col. 5 lines 29-38 and col. 6 lines 28-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, powering on or off at least one branch of the power amplifier according to the received instruction to enable a logarithmic change in output power of the amplifier, as taught by Hareyama, in order to provide a high frequency power amplifier having further improved efficiency thereof in comparison with a

conventional amplifier and having a structure such that its output can be controlled continuously by changes in the drain voltages of switching-driven transistors.

Pehlk and Hareyama in combination, fails to teach the instruction specifies at least one of a percentage change in power and a dB change in power.

However, Gandhi teaches the instruction specifies at least one of a percentage change in power and a dB change in power (col. 2 lines 26-49).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Gandhi into view of Pehlk and Hareyama in order to generate power adjust commands for mobiles being served by a base station in a system-based, or centralized, manner by considering overall system performance during power control, rather than solely considering the state of individual mobiles, when high interference conditions occur.

Consider claim 2, Pehlke further teaches transmitting the amplified signal (page 6 [0064]).

Consider claims 5, Pehlke further teaches the powering on or off a branch of the power amplifier linearly in dB changes the output power of the amplifier (page 6 [0064]).

Consider claim 9, Pehlke teaches a receiving engine capable of receiving an instruction to adjust the output power of power amplifier (fig. 4 page 5 [0051]); and a power amplifier engine, communicatively coupled to the determining engine and the

power amplifier, capable of transmitting the determination to the power amplifier (col. 6 lines 3-23).

Pehlke does not explicitly show that a determining engine, communicatively coupled to the receiving engine, capable of determining how many branches of a power amplifier to power on or off according to the received instruction to enable a logarithmic change in output power.

In the same field of endeavor, Hareyama teaches a determining engine, communicatively coupled to the receiving engine, capable of determining how many branches of a power amplifier to power on or off according to the received instruction to enable a logarithmic change in output power (col. 5 lines 29-38 and col. 6 lines 28-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a determining engine, communicatively coupled to the receiving engine, capable of determining how many branches of a power amplifier to power on or off according to the received instruction to enable a logarithmic change in output power, as taught by Hareyama, in order to provide a high frequency power amplifier having further improved efficiency thereof in comparison with a conventional amplifier and having a structure such that its output can be controlled continuously by changes in the drain voltages of switching-driven transistors.

Pehlk and Hareyama in combination, fails to teach the instruction specifies at least one of a percentage change in power and a dB change in power.

However, Gandhi teaches the instruction specifies at least one of a percentage change in power and a dB change in power (col. 2 lines 26-49).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Gandhi into view of Pehlk and Hareyama in order to generate power adjust commands for mobiles being served by a base station in a system-based, or centralized, manner by considering overall system performance during power control, rather than solely considering the state of individual mobiles, when high interference conditions occur.

Consider claim 12, Pehlke further teaches the powering on or off a branch of the power amplifier linearly in dB changes the output power of the amplifier (page 6 [0064]).

4. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pehlke et al. (US PUB. 2002/0136325 hereinafter, "Pehlke") and further in view of Hareyama (U.S PAT. 6,700,440).

Consider claim 15, Pehlke teaches a power amplifier, comprising: a plurality of branches for controlling transistors (fig. 2B page 2 [0022]).

Pehlke does not explicitly show that a plurality of transistors, each transistor being communicatively coupled to a branch of the plurality of branches, wherein the transistors are arranged in a logarithmic scale, thereby enabling a logarithmic change in output power with the powering on or off of a transistor.

In the same field of endeavor, Hareyama teaches a plurality of transistors, each transistor being communicatively coupled to a branch of the plurality of branches,

wherein the transistors are arranged in a logarithmic scale, thereby enabling a logarithmic change in output power with the powering on or off of a transistor (col. 4 lines 7-18, col. 5 lines 29-38, and col. 6 lines 28-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a plurality of transistors, each transistor being communicatively coupled to a branch of the plurality of branches, wherein the transistors are arranged in a logarithmic scale, thereby enabling a logarithmic change in output power with the powering on or off of a transistor, as taught by Hareyama, in order to provide a high frequency power amplifier having further improved efficiency thereof in comparison with a conventional amplifier and having a structure such that its output can be controlled continuously by changes in the drain voltages of switching-driven transistors.

Consider claim 16, Pehlke further teaches the powering on or off a branch of the power amplifier linearly in dB changes the output power of the amplifier (page 6 [0064]).

Consider claim 17, Pehlke further teaches a transmitter comprising a power amplifier (page 6 [0061]).

5. Claims 6-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pehlke in view of Hareyama and Gandhi and further in view of Eidson et al. (U.S PAT. 6,255,906 hereinafter “Eidson”).

Consider claims 6 and 13, Pehlk, Hareyama, and Gandhi in combination, fail to teach thermometer coded power control words are used to power on and off branches of the amplifier.

However, Eidson teaches thermometer coded power control words are used to power on and off branches of the amplifier (col. 5 lines 27-34).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Eidson into view of Pehlk, Hareyama, and Gandhi in order to provide the power amplifier is operated as a completely digital device with a certain degree of digital pre-distortion compensation.

Consider claims 7 and 14, Eidson further teaches the thermometer coded power control words ensure monotonic power control (col. 5 lines 31-34).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone

number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan Nguyen/
Examiner
Art Unit 2618

/Nay A. Maung/
Supervisory Patent Examiner, Art Unit 2618